

STATE OF COLORADO

Roy Romer, Governor
Patti Shwayder, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

HAZARDOUS MATERIALS AND WASTE MANAGEMENT DIVISION

<http://www.cdphe.state.co.us/hmw/>

4300 Cherry Creek Dr S
Denver, Colorado 80246-1530
Phone (303) 692-3300
Fax (303) 759-5355

222 S 6th Street, Room 232
Grand Junction, Colorado 81501-2768
Phone (970) 248-7164
Fax (970) 248-7198



Colorado Department
of Public Health
and Environment

July 21, 1998

John Rampe
DOE - RFFO
P O. Box 928
Golden, CO 80402-0928

Building Rubble Disposition

Dear John,

Over the past few months, the Site has indicated that they are struggling with the issue of how to manage and dispose of rubble from building decommissioning. Recently, CDPHE convened some internal meetings to address this topic. The results of these meetings is the attached discussion paper.

It is our intent to use the attached paper to facilitate the discussion among the RFCA parties over the disposition of building rubble. To that end, we would expect to meet with you in the near future.

As the paper indicates a preference by CDPHE for Type 2 building rubble to be considered remediation waste, we anticipate that the B886 rubble disposition could be handled under RFCA. However, this requires that the disposition details, demonstrating adherence to the substantive requirements of the solid waste regulations, be included in some RFCA decision document, either the IM/IRA or a subsequently produced attachment. I will be assembling the substantive requirements to provide you guidance in the completion of this document and our discussions.

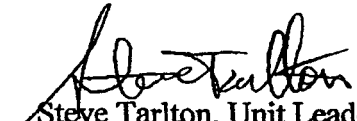
You will also notice that we have proposed the possibility of a site-specific, dose-based criteria for disposal of rubble contaminated above the free release criteria. CDPHE staff are developing some test numbers for this scenario, and we expect to discuss these with you.

ADMIN RECCRD 1/8
SW-A-003228

John Rampe
July 21, 1998
Page 2

Please contact me at 692-3423 to set up a time for our discussions B886 concerns can be discussed directly with the CDPHE project manager, Edd Kray, at 966-2115

Sincerely,

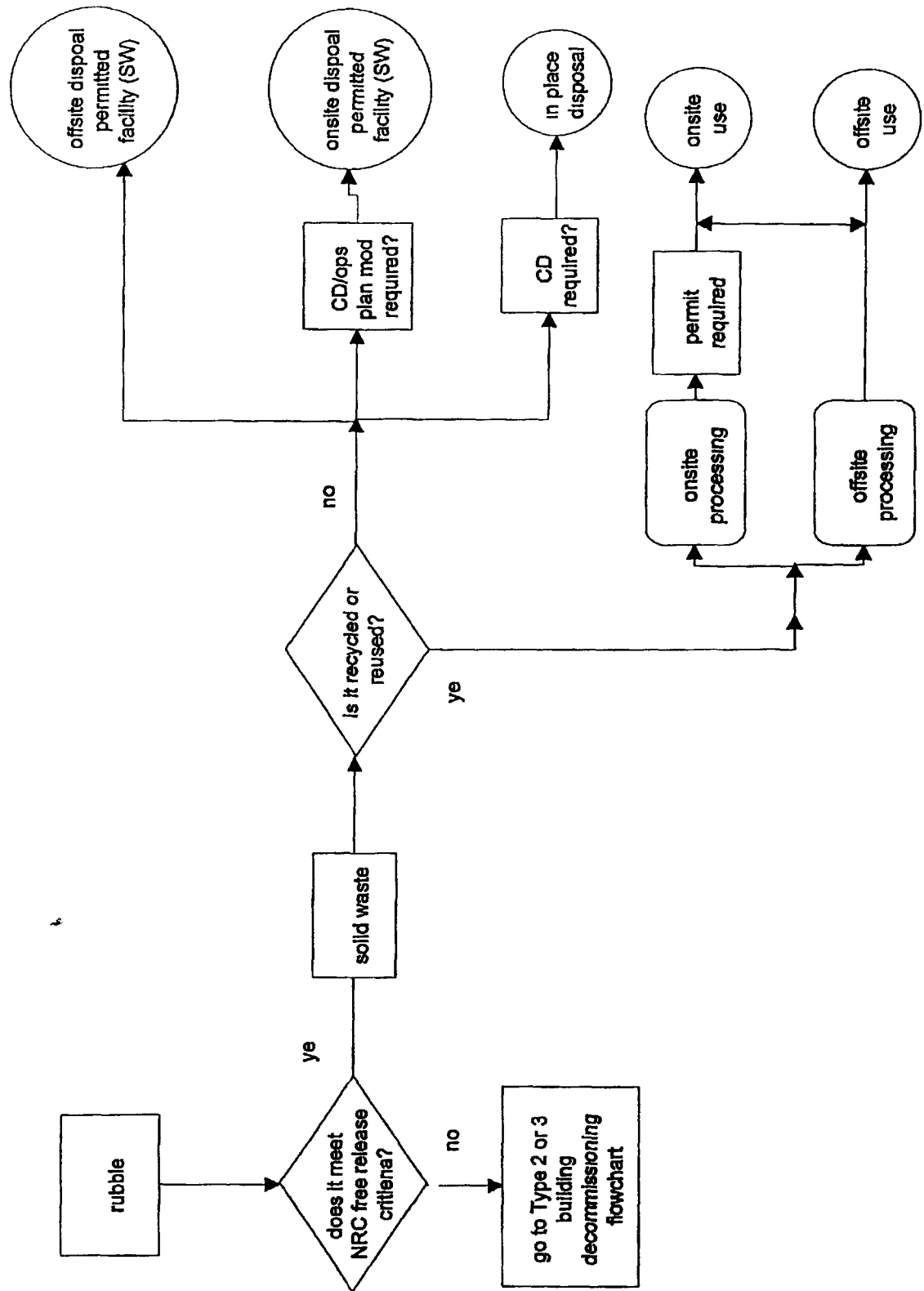

Steve Tarlton, Unit Leader
Rocky Flats Oversight Unit

att.

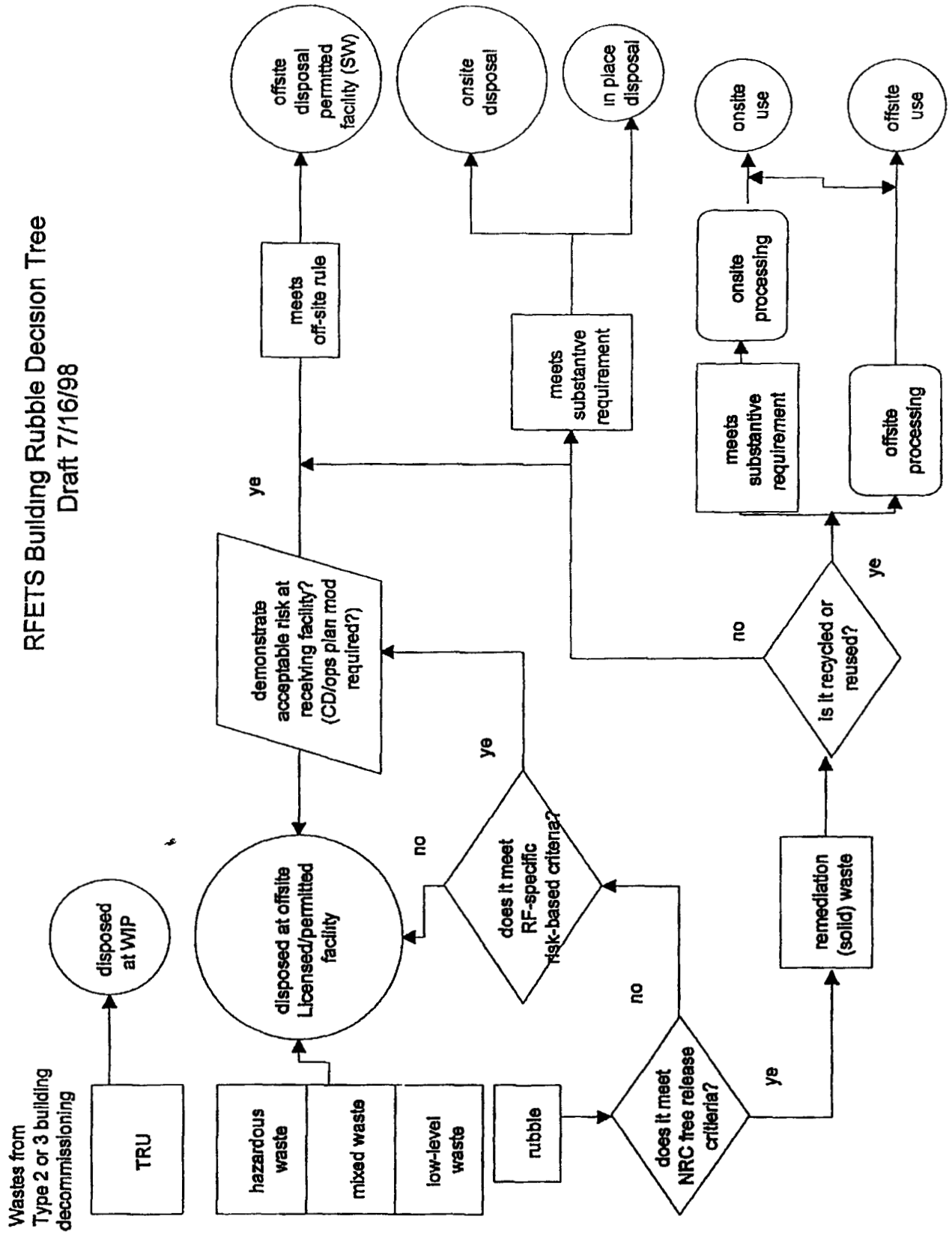
CC Steve Gunderson, CDPHE
Tim Rehder, EPA
Joe Legare, DOE
Dave Shelton, KH

Wastes from
Type 1 building
decommissioning

RFETS Building Rubble Decision Tree
Draft 7/16/98



RFETS Building Rubble Decision Tree Draft 7/16/98



Rocky Flats Building Rubble Disposal
Draft Discussion Paper

Background

The Rocky Flats decontamination and decommissioning program will attempt to decontaminate building materials to minimize the amount of material that would require disposal as a radioactive or hazardous waste. Prior to decommissioning, removable equipment will be stripped out of the building. In the decommissioning process the Site is expected to generate the following wastes:

- TRU waste
- low-level radioactive waste (LLW)
- hazardous waste (HW)
- building rubble (both not contaminated and decontaminated)

TRU waste will be packaged for shipment to WIPP or to long term storage if WIPP shipment is delayed. LLW and HW or mixed wastes will be containerized for offsite disposal at one of several available sites.

Building rubble will come from clean buildings (Type 1) or from contaminated buildings (Type 2 or 3). Type 1 buildings, demonstrated through characterization and approved by the regulators, are demolished or reused outside the RFCA regulatory process, therefore the rubble is considered solid waste. Type 2 or 3 building rubble that is not contaminated or has been decontaminated to free release criteria remains remediation waste and may be either recycled or disposed as solid waste, as long as the substantive requirements of the solid waste regulations are met and demonstrated in the remediation decision documents.

Materials decontaminated to site-specific risk based standards may still be considered as a solid waste; however acceptance at a disposal site would require disposal site-specific risk analysis and may require modification of the Certificate of Designation (CD). Additional work is necessary in this case.

This decision process is summarized in the attached figures.

Regulatory Framework

Recycling

Building rubble disposal may be accomplished through a variety of mechanisms. Minimization of disposal volumes can be accomplished by salvaging and recycling building materials. Recycling options may include:

Recycling options may include

7/21/98

Metals - Recoverable structural steel, plumbing piping, heating ducts, etc can be removed from the building prior to demolition or separated from other debris for recycling

Wood - Wood may be recycled as structural lumber, or mulched and used as such, or composted (tests for lead based paints would be applicable) There is a nearby composter near Golden

Masonry - Processing masonry materials into aggregate for re-use by removal to a commercial facility offsite, processing at an onsite facility, or using the larger pieces for civil engineering projects (rip-rap)

There are commercial facilities that reprocess masonry into aggregate, however, hauling distances may make this cost prohibitive. A material processing unit could be set-up onsite and the materials processed into various sizes of aggregate. A fugitive dust permit and storm water permit may be necessary for Type 1 building rubble; Type 2 or 3 building rubble would be subject to the CERCLA exemption from administrative requirements. Larger pieces of the masonry may be used for legitimate civil engineering projects without processing if they meet proper ASTM or similar engineering standards. Care must be exercised in this instance not to cross the vague line of "use constituting disposal" (it can't just be dumped in a hole)

Free Release Material Disposal

Clean materials not recycled are considered solid waste under RCRA and the Colorado Solid Waste Act. While no firm national definition exists for what is clean, the RFCA Parties have agreed to free release criteria consistent with NRC, DOE and CDPHE policy. Once screened from the hazardous and radiologic regulatory framework, the materials are regulated as any other solid waste. Solid waste from contaminated buildings is remediation waste, covered under the CERCLA exemption from the administrative requirements of permits. The substantive requirements of the regulations must still be met, and demonstrated in the RFCA decision document.

Potential disposal options for the building rubble include

- 1 In-place disposal of debris.
- 2 Removal from the building location (footprint) to a central, onsite disposal site.
3. Removal of all or portions of the debris to an offsite disposal facility.

For Type 1 buildings, both options one and two above would likely require a certificate of designation (CD) under the Solid Waste Act (C.R.S. 30-20-100.5 *et seq*). A CD would be issued by Jefferson County, requires technical review and comment by CDPHE, and is subject to a public hearing process (CRS 30-20-103). In general, a CD is not required for the disposal of one's own waste on one's own property; however, this exemption does not apply to a governmental unit [C.R.S 30-20-102(3)].

Option 3 is self-explanatory. Any permitted solid waste landfill could take the free release material. According to the EPA Offsite Policy, remediation wastes may be disposed off site, if EPA has reviewed the facility for compliance with environmental regulations. Thus, disposal facilities receiving clean rubble from Type 2 or 3 buildings fall under EPA's Off Site Policy.

Under CERCLA, Rocky Flats can develop their own risk-based (or dose-based) clean up criteria in order to decontaminate buildings. This approach is consistent with the site-specific approach allowed by NRC. However, off-site disposal of non-free release material in Colorado falls under state authority for radioactive waste disposal. In order to dispose of materials above the free-release criteria but below the Rocky Flats site-specific clean up criteria, the disposal facility must demonstrate that the risks associated with the disposal are within state guidelines (25 mrem/yr). The CD and/or operating plan for the facility would likely need to be modified to include the specific waste for acceptance. The CD revision would require CDPHE technical review and public comment.

no cc moniz - 8/6